

Christopher Wren

← Baroque English →



← architect →

By: Luke Brown

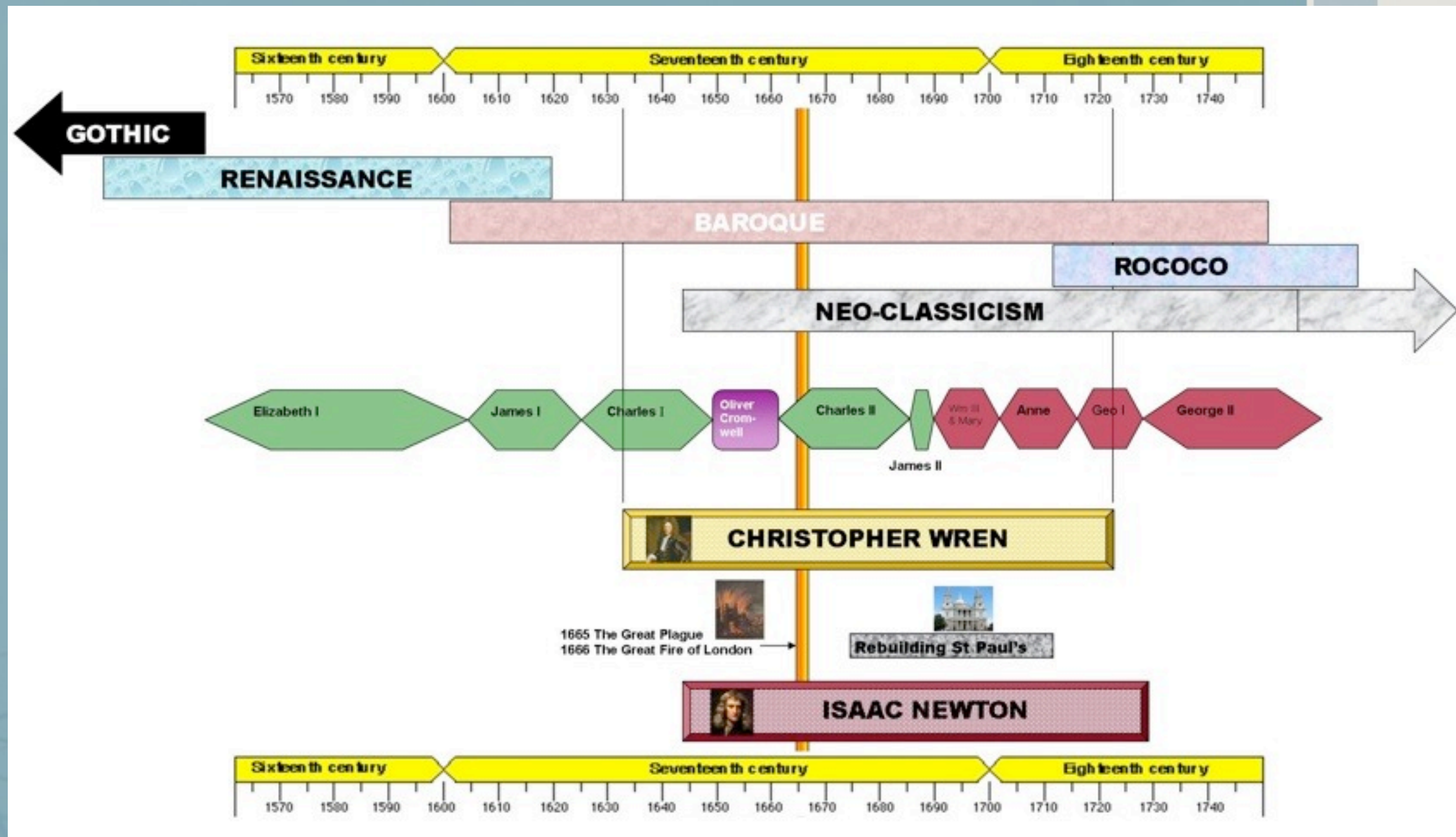
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Christopher Wren – A Baroque architect

Now I use the term architect a little loosely here because in the 1600's The men who designed buildings were not like architects today. Architecture was not a recognized profession and they did not get paid for it. They did it as a past-time, and. It wasn't until the mid 1700's that Architecture began to be recognized as a specialized profession.

In the baroque period, most architects of the time were middle or upper class men who designed for themselves or their friends. Sir Christopher Wren was actually a trained scientist.

Outside Influences



Periods of
Architecture
and Culture

English
government

Men of the
Times

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Before I really get started in the presentation, I want to warn you that this presentation will seem to bounce back and forth between history, the english monarchy, architecture and cultural periods all while trying to tell you about Christopher Wren. But it is important to understand how these areas are all related because they directly influence what Christopher Wren was able to do.

So before I start let me establish the setting by taking a good look at this timeline -

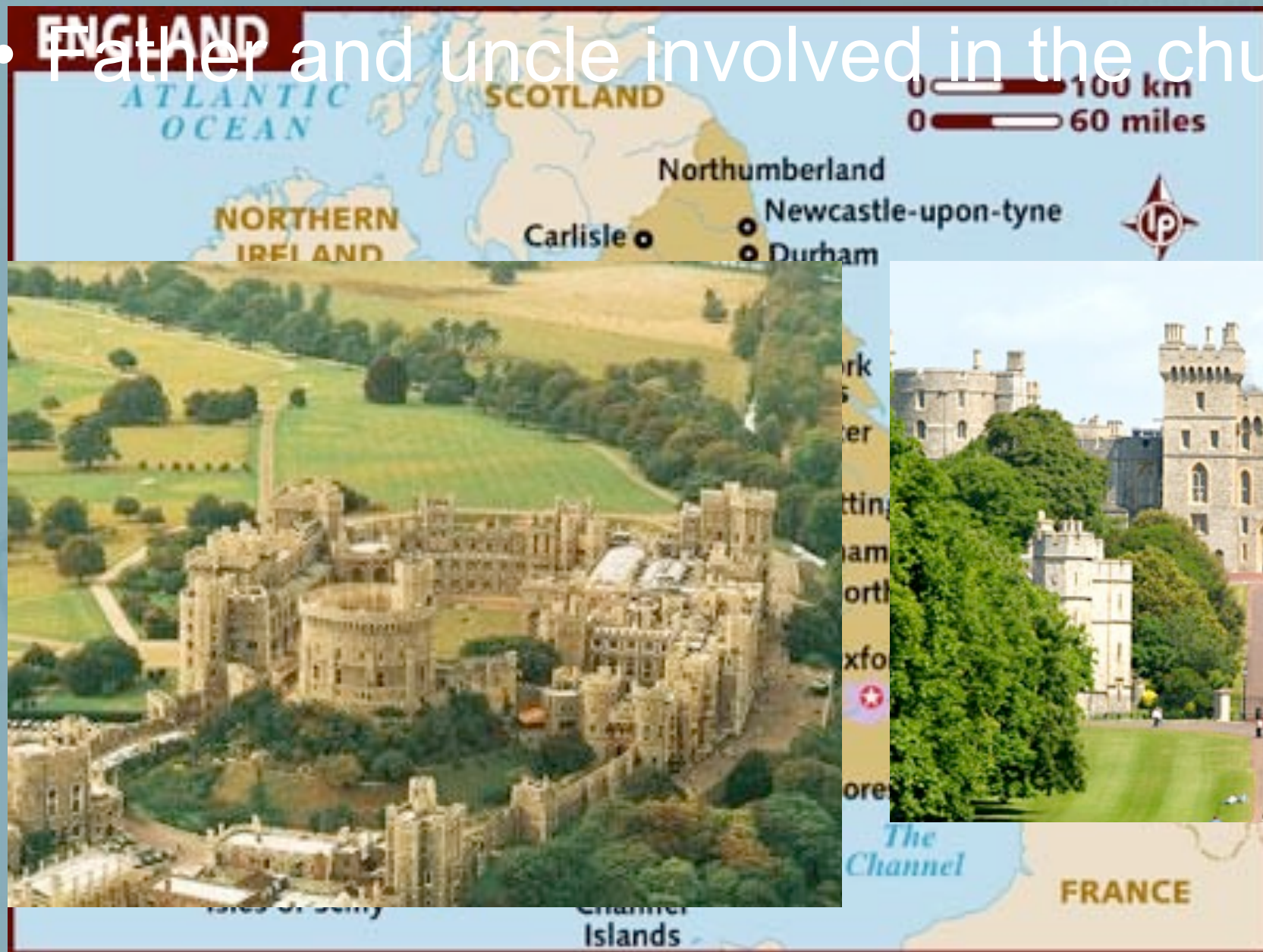
First it shows you the general periods of architecture and culture and how they overlapped as one period transitioned into another. The medieval period ended with gothic style which moved to the renaissance which developed further into the Baroque period that moved into the Rococo period. But developing at the same time as Baroque was Neo-Classicism. These periods of architecture were not started by or determined by Christopher Wren, but they did affect him.

In the second section, it shows the succession of English monarchs. Again Christopher Wren did not affect the rulers of England, but they surely did affect him. It is important to note that there is a break in the monarchy. This had a tremendous impact on christopher wren

And finally you see the actual time frame that Christopher Wren lived as well as one of his contemporaries Isaac Newton that I just finished giving my presentation on.

Early years

- Born in Wiltshire, England on Oct 20, 1632
- Mother died when he was 2
- Was a sickly child
- Father and uncle involved in the church



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Christopher Wren was born in East Knoyle, Wiltshire, England on Oct. 20, 1632. He was left motherless at 2 years old when his mother died. He was a sickly child.

His father was a rector or parish priest of the village of East Knoyle. And his uncle was also a priest and then later a bishop.

Christopher Wren's father was promoted to the Dean of Windsor when Christopher was 3 years old. The dean is the chief religious person who lives at a cathedral. Windsor was closer to London and was one of the important castles of the King of England, Charles I.

So in Christopher Wren's early years, he lived in the Deanery within the grounds of Windsor Castle. King Charles I's son, Charles II, was just 2 years older than Christopher and it is possible Christopher and Charles knew each other during this time, but there are not any specific records.

English Civil War 1641 - 1651

- War between Royalists and Parliamentarians
- absolute power of the monarchy vs abolish royal control.
- Father forced from the Windsor when the castle was attacked for support of king .
- uncle in prison in tower of London
- Parliamentarians won
- Monarchy abolished
- Oliver Cromwell came to power.



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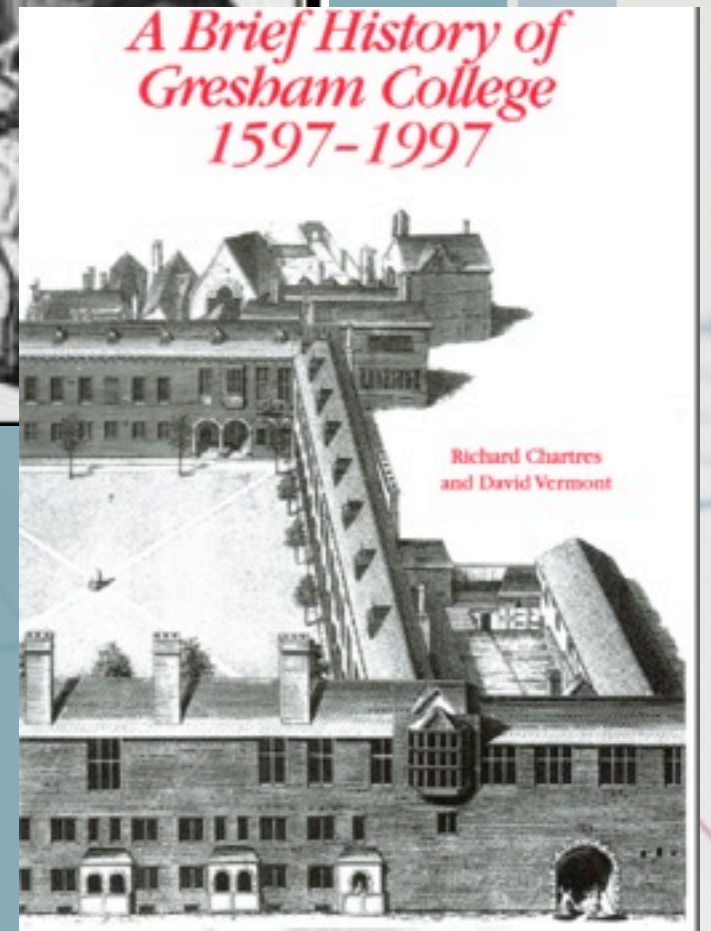
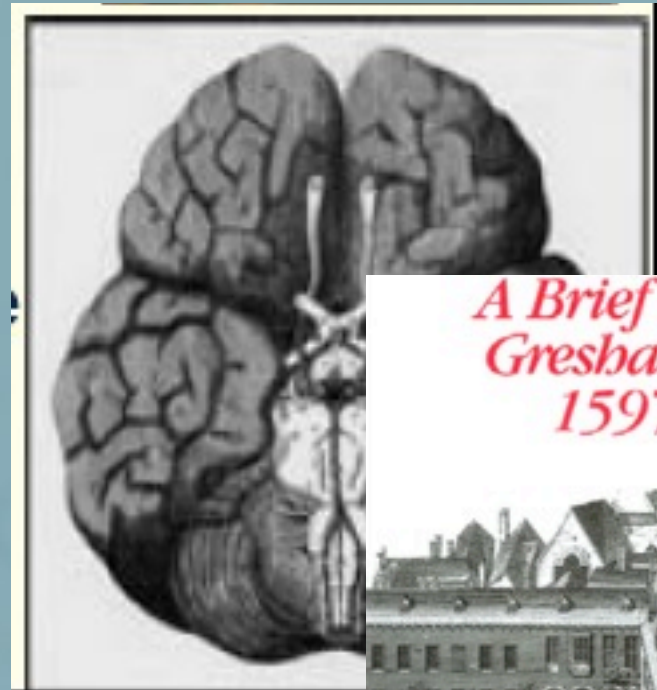
English civil war broke out in 1641 when Christopher Wren was 9 years old. The war was the royalists who supported King Charles I and the absolute power of the monarchy who fought against the parliamentarians who wanted to get rid of the monarchy. King Charles had to flee from the castle in Windsor when it was attacked. King Charles I's son Charles II was forced into exile.

Of course since the Wren family was living within the grounds of the king's castle, it is not too surprising that Christopher's father was attacked as well for supporting the king and being a royalist. They escaped. Wren's uncle, the bishop was not so lucky, he was captured and put in prison at the tower of London.

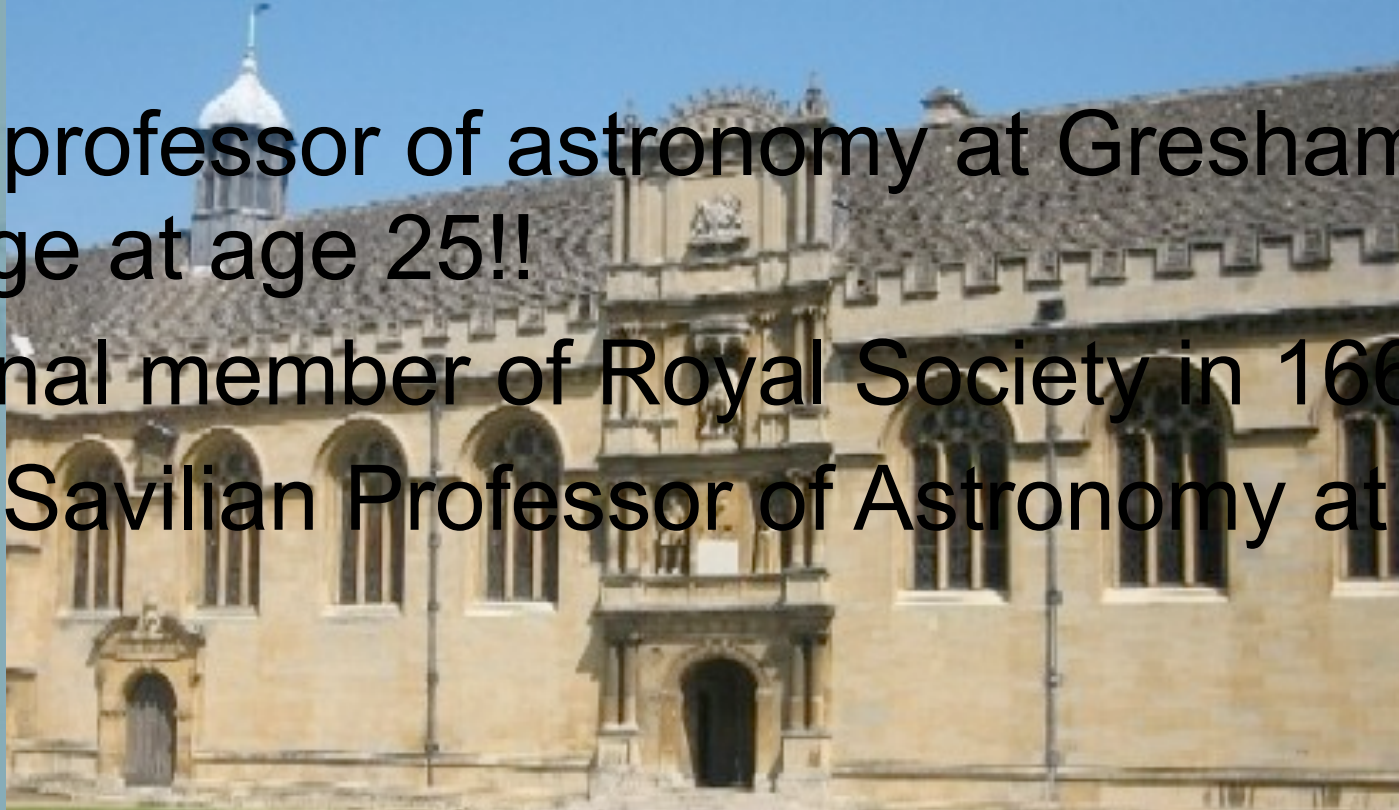
The English civil wars lasted for 10 years. It ended in 1651 when Wren was 19 years old. The Parliamentarians had won. The monarchy was beaten and abolished. King Charles I was executed and Oliver Cromwell came to power and took control of the English government.

Becoming an astronomer

- 1646 became sick --> worked for a physician
- entered Wadham College, in 1649
- Masters degree in 1653
- Areas of study and interest
 - Anatomy
 - Astronomy
 - Surveying
 - Mathematician – even praised by Newton



- 1657 professor of astronomy at Gresham College at age 25!!
- Original member of Royal Society in 1660
- 1661 Savilian Professor of Astronomy at Oxford



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During the english civil war, aside from escaping Windsor castle Christopher Wren stayed out of the fighting and took the academic route.

At the age of 14 in 1646 Wren was very sick and was taken to a physician at Oxford University. The physician got wren back to good health and the physcain recognized Christopher's intelligence and made him his assistant anatomist. The ongoing civil war provided a great many dead bodies to use for examination. Wren made very detailed drawings of the human brain. He also studied the blood system and devised a blood transfusion method and using the first intravenous needle in blood vessels

The Civil war eventually reached Oxford and shut it down. so in 1649 when he was 17, Christopher Wren enrolled at Wadham College. He received his Bachelor's degree in just 2 yrs and then in two more years he got his master's in 1653. Astronomy was his course of study

But Wren was definitely a man studying the full range of natural philosophy. He was involved in many of the new up and coming areas – just like Isaac Newton.

In Astronomy – he was esp interested in establishing a theory on the appearance of the planet Saturn

Surveying - Wren came up an instrument to measure angles and others things for surveying,

He also worked on the problem of finding longitude and distance at sea,

In Optics – He discussed the grinding of conical lenses and mirrors

He was especially good at mathematics. Isaac Newton who never gave much praise to fellow men of intellect wrote in his book *Principia* that Wren was one of the leading mathematicians of the day.

Wren's abilities and intelligence were widely recognized. At the age of 25, He was appointed professor of astronomy at Gresham College in London. Now this Gresham college is interesting because it doesn't have classes or degrees. It only holds lectures by its eight professors. That is the special way this college was set-up in 1597 and it is still the same way today. So to be appointed one of the very few professors at such a young age is quite an accomplishment.

In 1660 Wren was part of a scientific discussion group at Gresham College London. They had weekly meetings and discussed the new ideas in natural philosophy. These men were the beginning of the very important Royal Society that would be created in 1662. Wren's lectures were sometimes the basis for the discussions of the group.

In 1661 he became the Savilian Professor of Astronomy at Oxford because by this time there were changes in the government and Oxford re-opened

Long Live the King

- 1659 - Cromwell dies
- 1660 - Monarchy returns - Charles II is king
- During exile, monarchy lived in France - were exposed to continental way
- King appointed men who stayed true and served him during his exile



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The reason Oxford reopened was because Oliver Cromwell died in 1659. Cromwell had been ruling as a quasi-monarch for years. When he died, there was no one who was strong enough to take the position and hold together a parliamentary government like Cromwell.

So In 1660 the english people were very happy to welcome back Charles II from exile in France. Charles II became king of England and the monarchy was reinstated.

During his exile Charles II grew up outside of England. Both he and his court had the chance to be exposed to the full impact of the Renaissance and Baroque culture that was coming from Italy and taking hold on the continent esp in France

Charles II began appointing men to positions in his court based on who had remained loyal to him and served him in exile.

Architecture of the day

English architecture

- Mainly Norman style from Medieval period
- Half timber construction
- Jettying
- merlons



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England didn't really have a national architecture at this time. There had been a strong Norman architectural style in early medieval times but England was not really affected much by the renaissance architecture that developed in the rest of Europe because it came out of Italy and the English stayed out of Italy for political and religious reasons – esp the Catholic Church and the Pope.

English architecture was pretty much medieval Gothic and out of date. It was mostly Norman and it featured half timber construction where wooden beams are filled in with plaster. There was jettying of floors where the upper floors were actually larger than the lower floors and they hung out over the streets. And in the great structures, Merlons were a prominent feature on the top of buildings.

Architecture of the day



European architecture

- Characterized by larger structures
- Ornate detailing
- A flow in the building
- Grand buildings beyond the church



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Meanwhile European renaissance architecture on the continent had changed greatly from the medieval period and it brought in the classical style of pediments and columns.

The baroque period took this classical style even farther. It dropped much of the original control and order and it featured:

Much larger and more significant structures

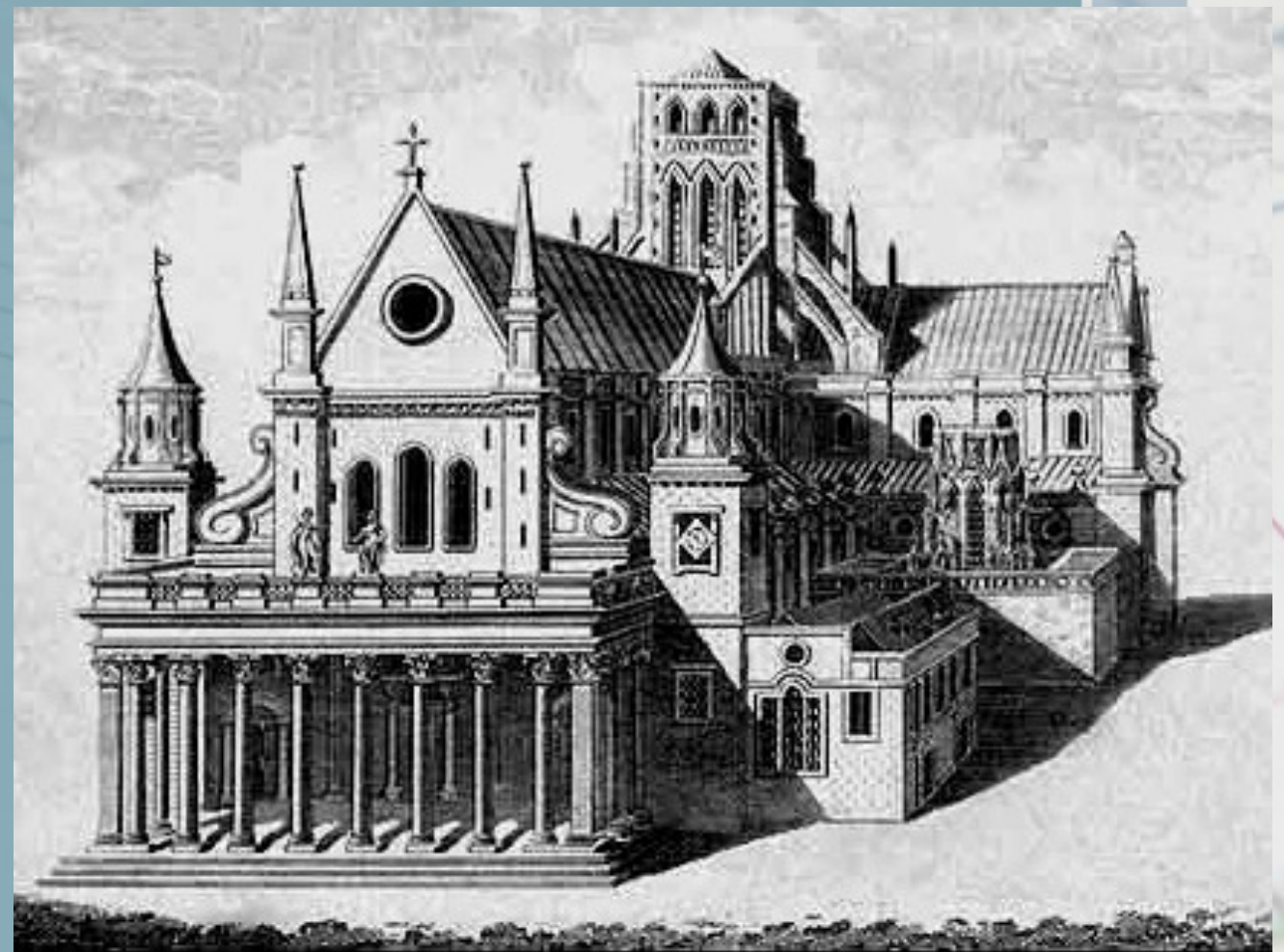
With very Ornate detailing and decorations

It was desired for the buildings to have a flow - Columns could be twisted, rooms didn't have to be just rectangular, they could be shaped into ovals

Grand buildings were no longer dominated by the church. Royal and government buildings became very grand to show they had controlling power too, they were competing with the church power

St. Paul's Cathedral London

- Originally built in 1087
- Mid 1600's - largest church in Britain, and third largest in Europe
- church in disrepair
- Inigo Jones redesigned nave and transepts to introduce new baroque style



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In the mid 1600's St Paul's Cathedral was the largest church in Britain, and the third largest in all of Europe. The cathedral sits on a hill at a high point in the city of London and throughout the nearly 1000 years of history it has been a very dominant and important structure to the city. The church was in a state of disrepair at the time and was just given a makeover and updated new look by the architect of the day, Inigo Jones.

Inigo Jones was an architect of some renown at this time in England. He had done some travelling in Europe and was just starting to introduce the continental baroque style to England.

With his redesign of St Paul's, he put a classical style on the entrance using columns and a portico.

Wren gets into Architecture

- Uncle asks him to design a chapel
- 1663 Chapel at Pembroke College, Cambridge



Inspired by San Giorgio Maggiore in Italy

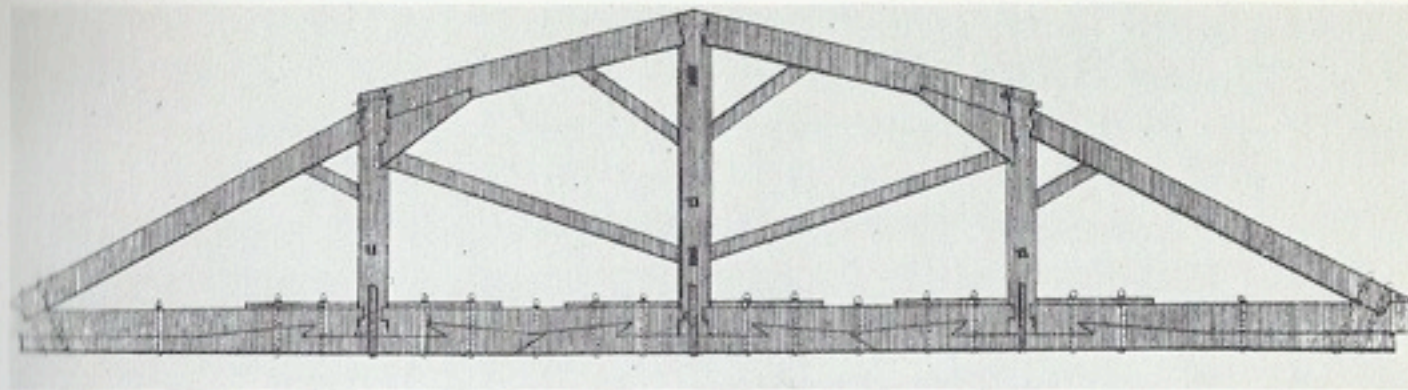
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Now I think you have all the background and I can get back and fully concentrate on Christopher Wren

When we last left Christopher Wren, it was 1661 and he was professor of Astronomy at Oxford. He was totally is all involved in doing science and math.

That is until his uncle, the bishop, is released from the Tower of London in 1662 by the new king and he is reinstated as bishop. His uncle asks Christopher to design a chapel to be built at Pembroke College, Cambridge. Wren draws up the plan and gets them approved by the bishop and the college. The design is for a simple rectangular building, but the façade that Wren designs is in the new baroque style. The building has a pediment with bold pilasters which are partial columns embedded in the flat surface of the building.

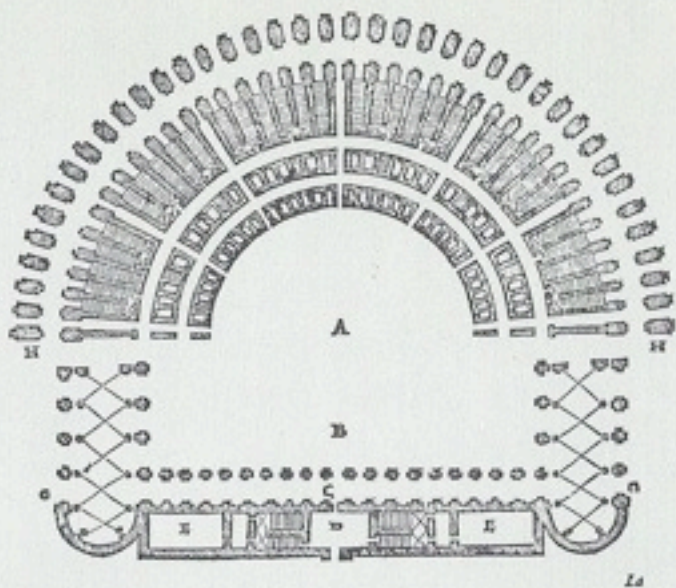
Sheldonian Theater



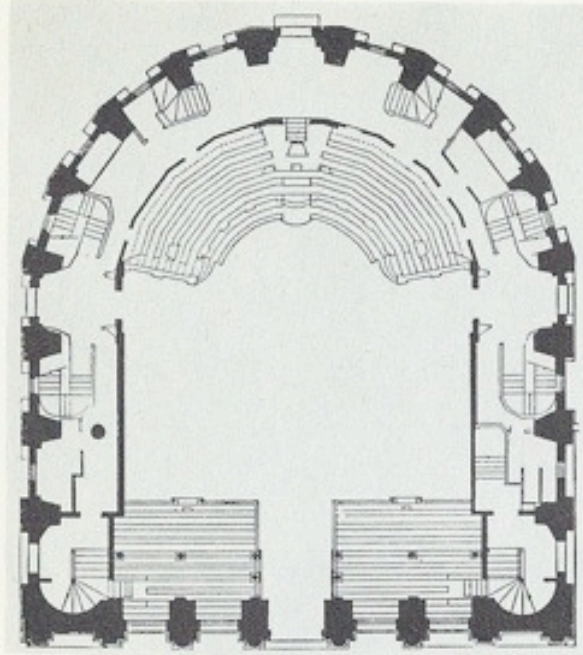
11 Sheldonian Theatre, Oxford. Roof truss

- 1663 – asked by Bishop of Oxford to design graduation space
- Large and good viewing
- Inspiration Roman Theatre of Marcellus
- Wren did not want a gothic arch to hold up ceiling or pillars to obstruct view

Wren designed new roof truss
Journey to France to study
Architecture



9 Plan of the Theatre of Marcellus in Rome



8 Sheldonian Theatre, Oxford. Plan



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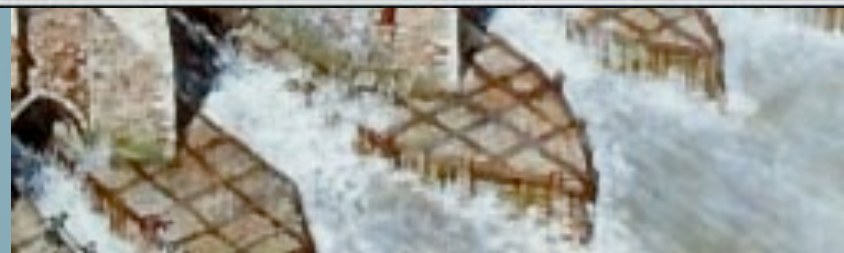
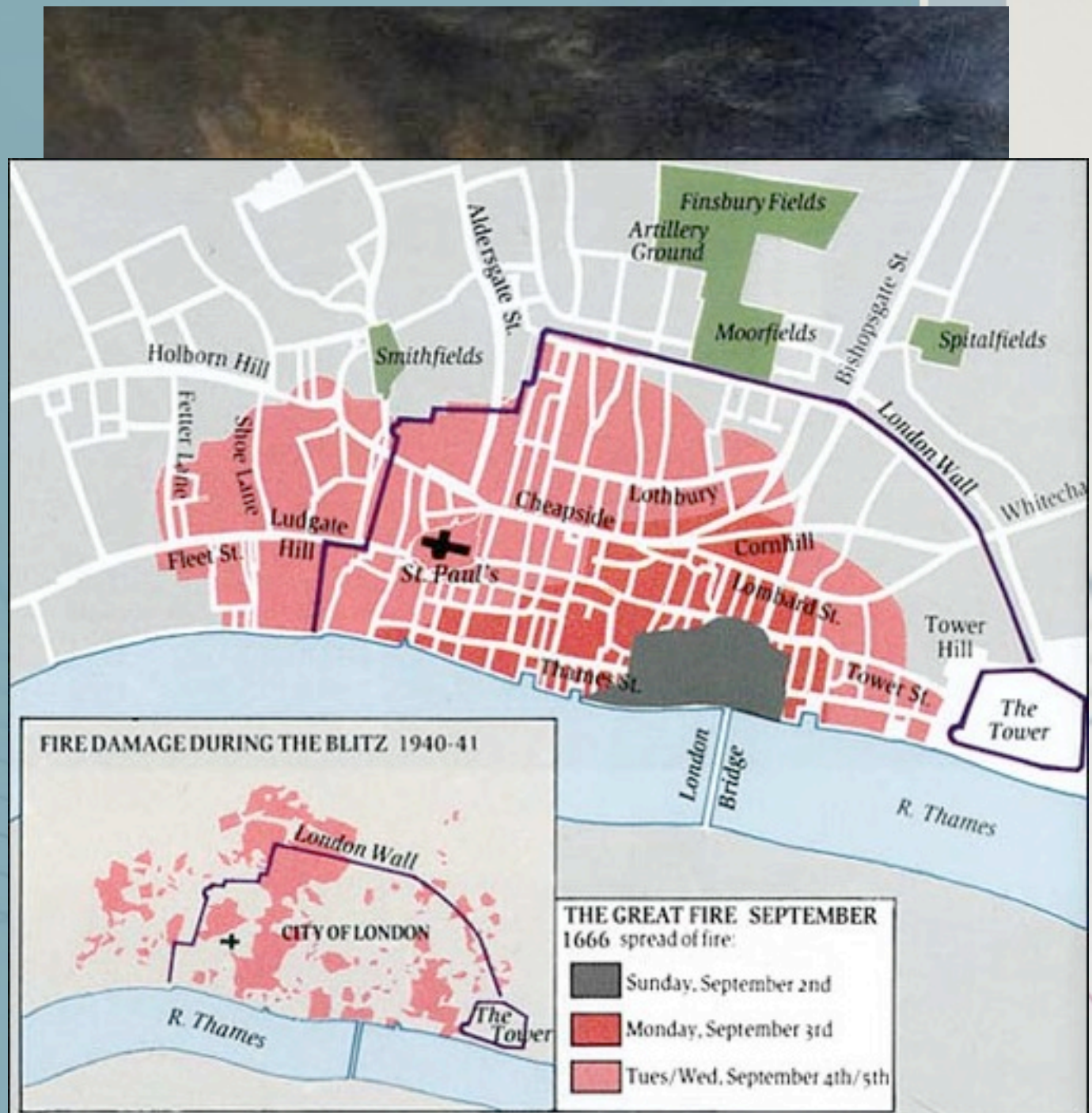
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The Great Fire

- September 2, 1666 a fire started on Pudding lane
- Badly damaged old St. Paul's
- 85% of the city was destroyed
- Wren was appointed to be a member of group to re-build and re-design London



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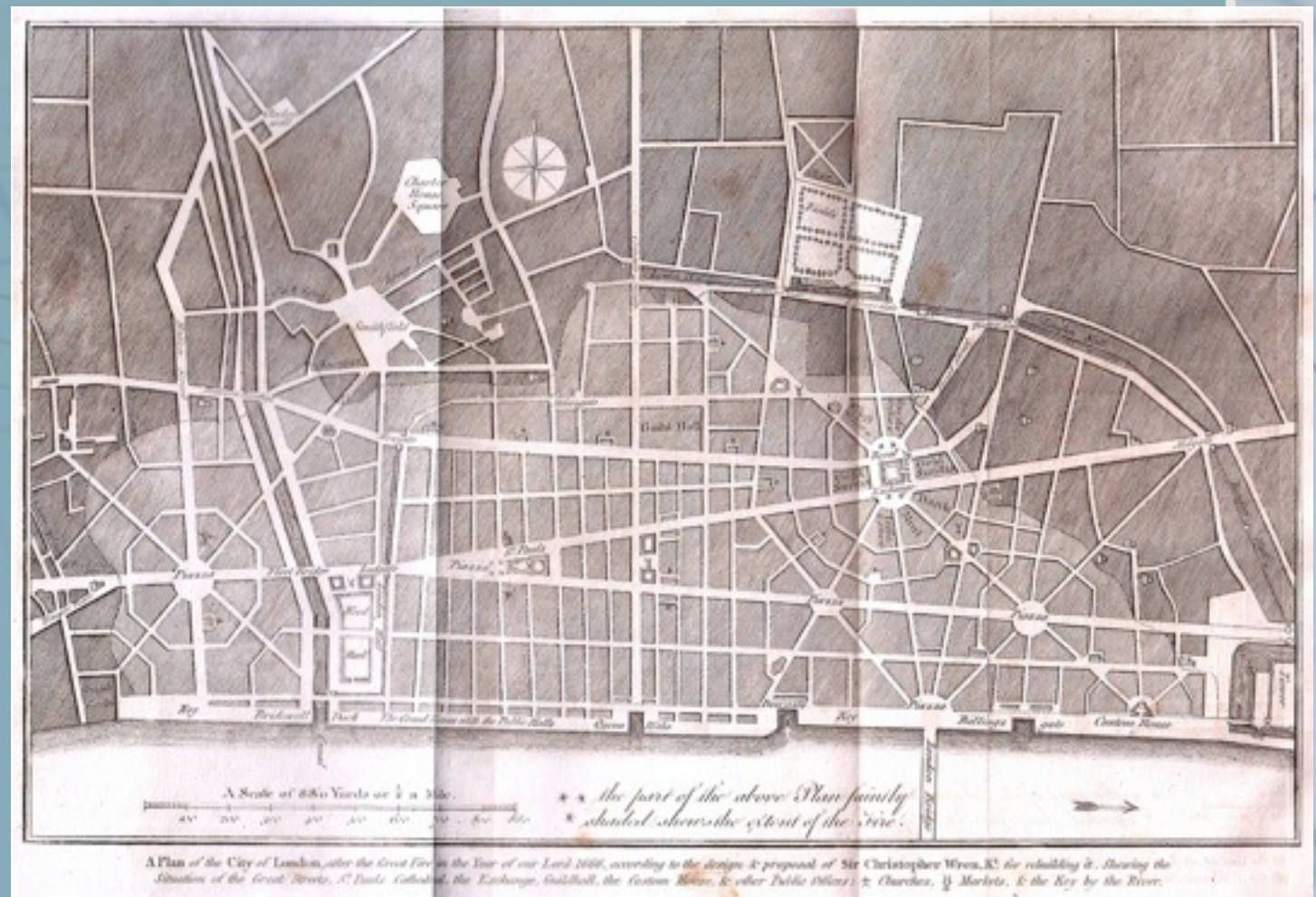
Shortly after Wren's return to England as the plague was ending, London was struck by the Great Fire. On September 2nd 1666 a fire broke out at Pudding Lane in the City of London. The fire raged for 4 days from Sunday to Thursday. By Monday morning, London Bridge with all of its houses was on fire and the only bridge across the Thames was destroyed. St Paul's Cathedral caught fire that same night and became an inferno. The Cathedral burned for two days and nights, the roof caved in, and the building was decimated, destroying one of the few Inigo Jones buildings with the new Baroque architecture.

By the end of the fire on the 4th day, five sixths of the City of London had been destroyed. Some 430 acres were destroyed, including 13,000 houses, 89 churches, and 52 Guild Halls even though very few people died. The Blitz destroyed less.

The city needed to be totally rebuilt. Just 3 years after designing his very first structures, Christopher Wren was appointed by King Charles II to be part of the commission supervising the reconstruction of the city.

Rebuilding London

- Wren redesigned the layout of the streets of London
- His plan was not accepted
- Commissioned to rebuild 52 some churches



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Wren quickly created a new plan for the City. His plan would wipe out the medieval tangle of alleys and laneways and the city would become a combination of radiating and grid streets accented by squares and vistas. The plan also called for a widening of the streets. Wren's plan was not accepted and actually, no plan got approved due to the fact that people started rebuilding immediately

However, Wren was specifically commissioned to oversee the building of 52 churches, one of them being the colossal St Pauls.

Within 5 years. in 1671, 9000 houses and public buildings had been completed. The New houses were built in brick instead of wood. Some city streets were widened and two new ones were created. Pavements were built for the first time. New sewers were also added.

The image is a collage centered around London's church architecture. The main feature is a black and white illustration of 25 church spires and towers, arranged in a row. Below this illustration is a list of the churches, numbered 1 to 25. To the right of the illustration is a map of London, showing the locations of the churches marked with dots. At the bottom of the collage is a color photograph of a modern street scene, likely in London, with a church visible in the background. The collage also includes a list of church names on the right side, some of which are highlighted in red. The overall theme is the historical and architectural significance of London's churches.

St Baristo Peter's V Shaks, On the needle Street, L
 All Hallows the East, Lombard Street, London
 St Martin Flind, The needle Street, London
 St Valer, Fleet Street, London
 St Swiths Back Church, St. Echn Church Street, London
 St Michael, Wood Street, London
 St Mildred, Bull Newgate Street, London St Clem
 St Oave Strand, Westminster
 St Marys, Old, W. Lang St Street, London
 St Mary, Alderman, Street, London
 St Mary, Abchurch, Lombard Street, London
 St Benet, Bow, Church Street, London
 St George, Broad Street, London
 St Magnus, Marty Street, Tower, Thames Street, London
 St Mary Magdalen, Old Fish Street, London
 St Clements, East Abbey, London
 St Blaise, Fleet Street, London
 St John, Church, Stafford, London
 St Stephen, Holborn, Street, London
 St Bartholomew, Exchange, London
 St Peter, Cornhill, Wand, London
 St Paul, Cathedral, London
 St Michael, Bassishaw, Royal College Hill, London
 St James, Gilt, Street, London
 St Mary, So, Church, Piccadilly, Westminster
 St Michael, Mary, Alder, Bow Lane, London
 St Anne and St Agnes, Gresham Street, London
 St Antholin, Watling Street, London

9 St Mary Abchurch. Plan

40 St Stephen, Walbrook. Plan

s commissioned to oversee the rebuilding of 52 churches as well as many other buildings

ough he designed so many churches at this time, they were all different. You can see by this sample of floor plans , just how different they are. Some of the most interesting ones

men because of the amount of geometry used. There is the classical inscribed circle within a square surrounded by a rectangle. Wren also used the new approach of supporting the roof partially with columns rather than with pediments. The church is also built on a very unusual site so that only a small portion of the entrance is visible from the street.

the Bow which had his first great classical steeple

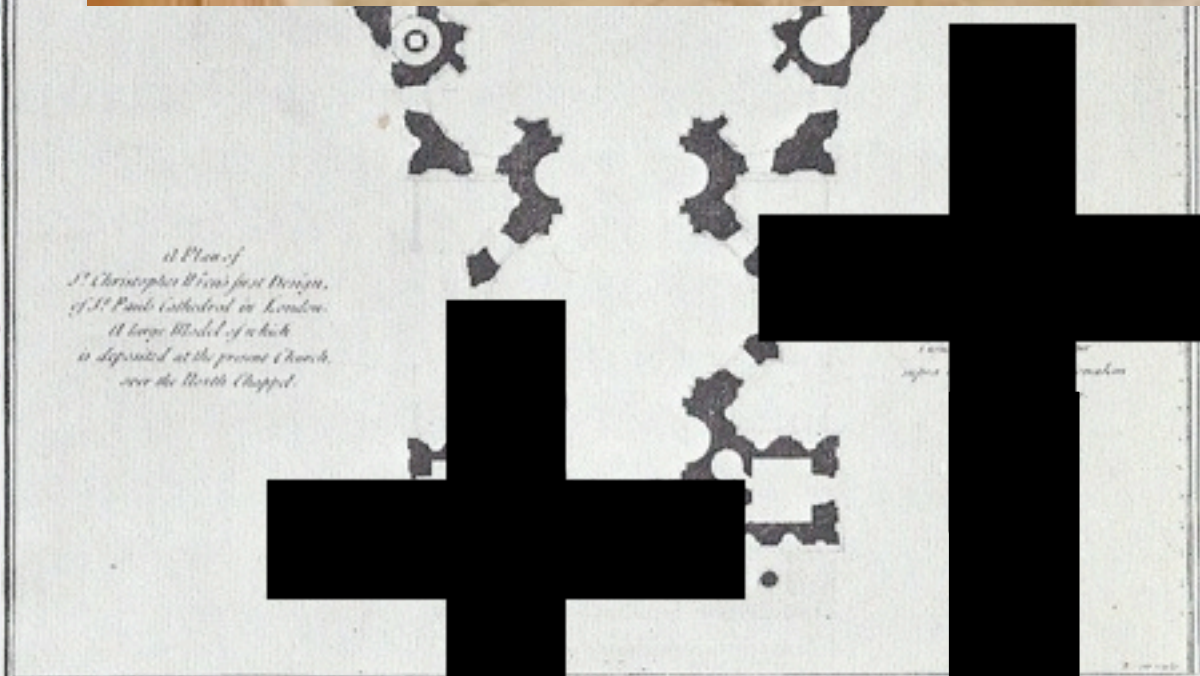
s church was built with the second tallest steeple.

After Wren became known for his originally designed steeples that still dot the London skyline. Each of the 52 churches he designed also has a different steeple design.

Rebuilding St. Paul's



- hardest task
- 1673 Wren presented a design based on a Greek cross - called the Great Model
- “*expression of baroque vitality tempered by classicism*” – On A Grand Scale
- Not accepted – too secular, too catholic



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The most difficult task for Christopher Wren was the redesign and construction of St Pauls Cathedral. As I already mentioned it was a building that was central importance to the people of London. It dominated there skyline and represented their religion. It had to be a much more involved design because it was a cathedral.

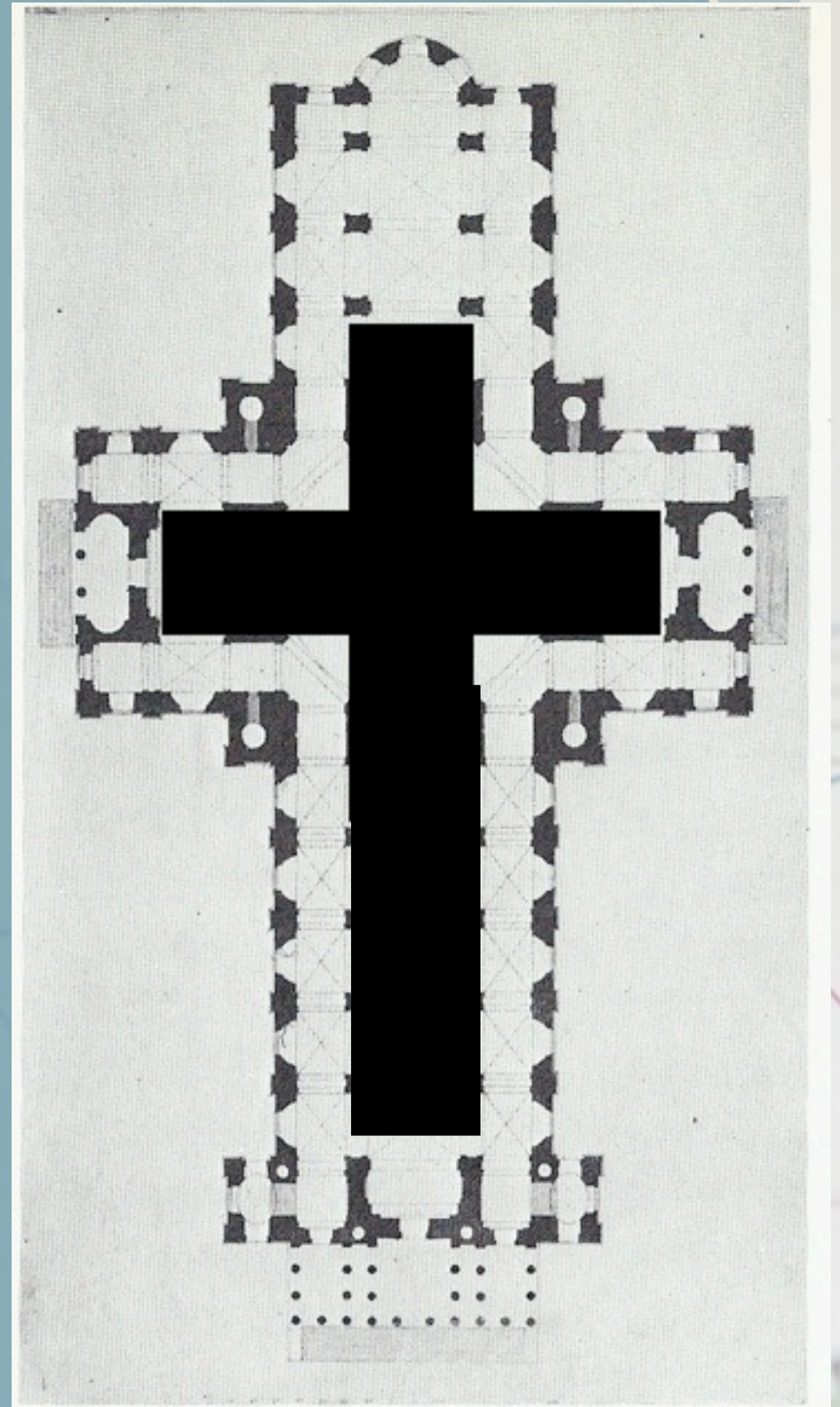
Also, it took time to raise the money needed to rebuild this church. A special tax on importing coal helped to raise the money.

In 1673, Wren presented a design for the cathedral based on the Greek cross. It was called the Great Model and it was actually big enough to walk through. Most churches at the time were based on the latin cross which is elongated in the lower section. The Greek cross is equal on all 4 sides. Wren's design included curved sides of the building and a dome instead of a steeple. In Christopher Wren's biography "On a Grand Scale" the Great Model design is described as "Wren's expression of baroque vitality tempered by classicism and reveals the influence of French and Italian architecture"

His design was not accepted. It was viewed as too secular, too catholic, and not respectful of the Anglican tradition.

Version 2

- In 1675 Wren presented a new design this was approved
- Called warrant design
- *“the king was pleased to allow him the liberty in the prosecution of his work, to make variations, whether ornamental than essential, as from time to time he should see proper.”* - Parentalia



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In 1675, Wren presented a modified design that was based on the latin cross with more traditional features. It had a combination dome-steeple, non-curved exterior walls, and a classic portico entrance. This compromise was known as the Warrant Design and it was accepted by the king.

Wren was fortunate enough to not have the design be limited to exactly what was drawn. “the king was pleased to allow him the liberty in the prosecution of his work, to make variations, whether ornamental than essential, as from time to time he should see proper.” - Parentalia

The final design

- 1675 construction began
- Completed in 1708 after 33 years
- Wren outlived many people who originally started working with him on St Paul's
- Many changes – dome & entrance
- Dome is special design with 3 shells
- Wren's masterpiece



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Rebuilding the cathedral began just a few weeks after the Warrant design was approved.

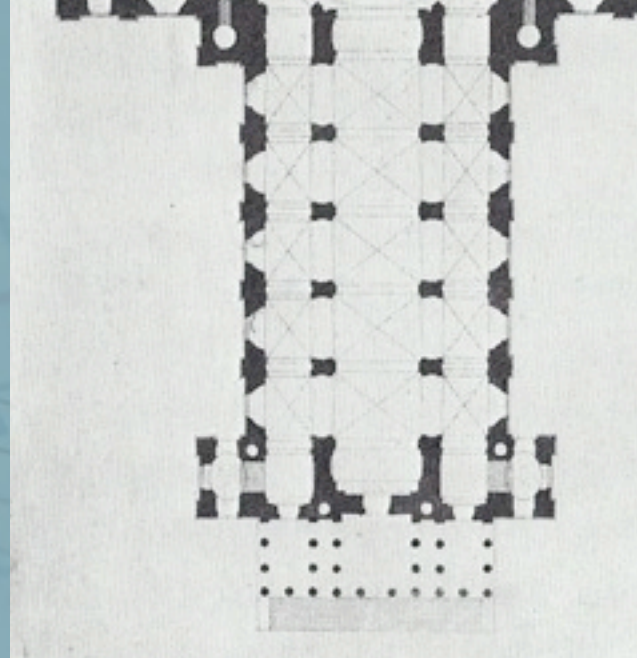
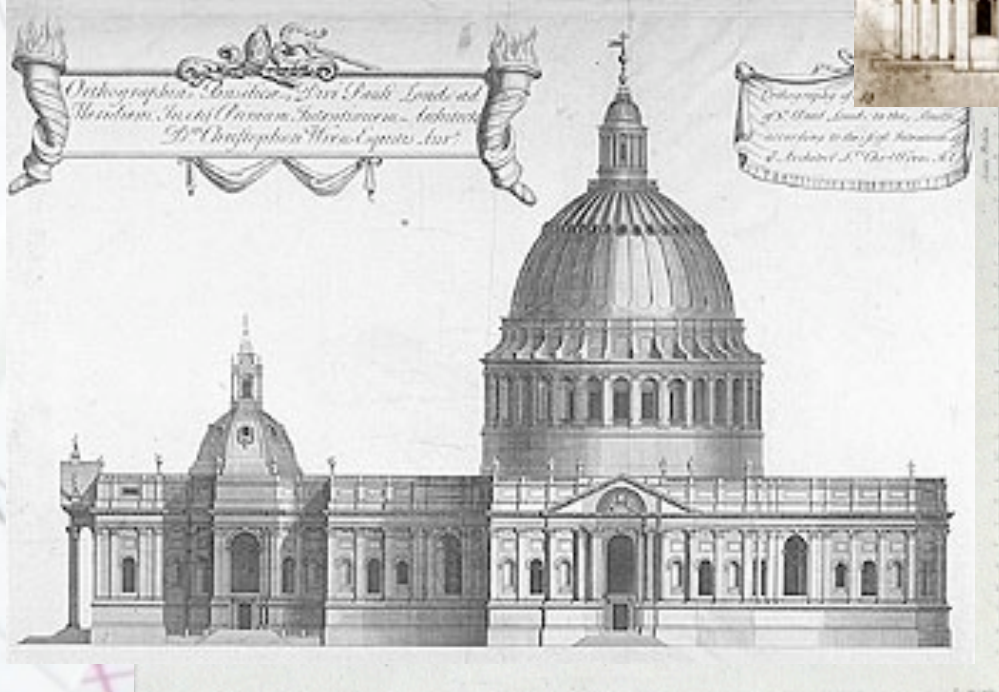
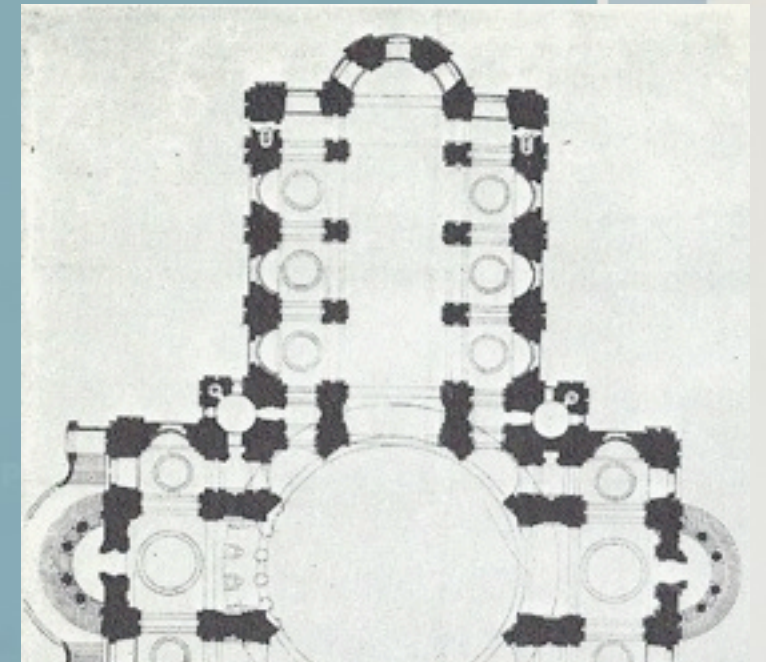
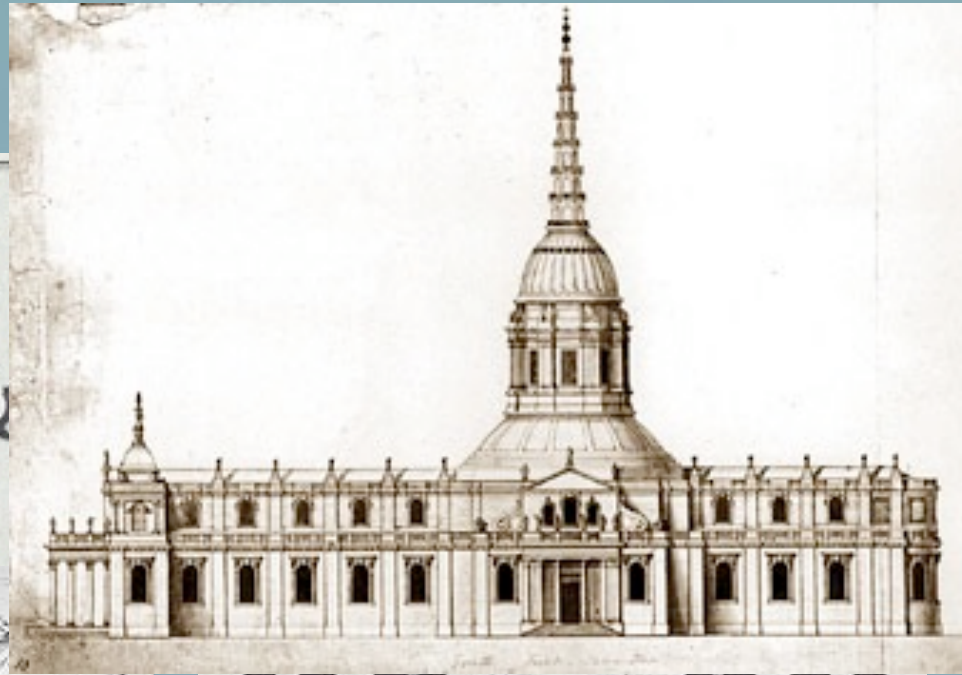
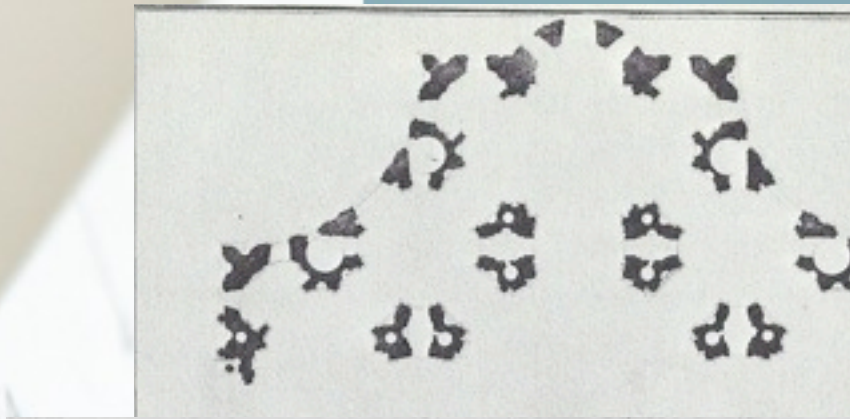
Building this great cathedral took an incredibly long time - 33 years. Over this time, Wren was able to sneak in many changes. The greatest change was the change from a steep dome to just a very large dome. He also added a grander front entrance. Now this may seem bold to make changes on a design approved by the king, but by the completion of St Paul's, many years had past and the monarchs had changed 3 times, one of them to a completely different house (Stuart to Hanover). The changes he made reflected his increasing knowledge of French and Italian baroque architecture that he gained from books and engravings.

The final design of St Paul's was very similar to the design of St Peter's Basilica in Rome. Although Wren never saw St Peter's Basilica, he saw a very similar dome on Francois Mansart's Val-de-Grace when he visited France in 1665.

The dome of St Paul's was actually a very unique design for the time. Three shells instead of just 2 were used. The outer shell was for external design, the inner shell was the actual ceiling of the cathedral and it was the middle shell that was the actual structure and carried the weight of the dome. This design has become the standard in architectural construction practice all over the world now, where the structure is concealed by outer and inner shells.

St Paul's Cathedral is Christopher Wren's masterpiece. "With its [splendid](#) dome, impressive scale, and dramatic [grandeur](#), St. Paul's is fundamentally a baroque building, but it is English Protestant baroque in its [restraint](#) and disciplined nature". - Christopher Wren's biography "On a Grand Scale"

Comparison of St Paul's designs



The Great Model

The Warrant
Design

As Built

Oh and by the way I was there



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Other secular buildings

Fountain Court of Hampton Court Palace



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Other secular buildings

Monument to the Great Fire



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Other secular buildings

Royal Naval Hospital for Seaman - Greenwich



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Royal Naval Hospital for Seamen was established as a home for old sailors – King Charles block on front right, Queen Anne block opposite and William and Mary blocks behind and Queen house in the back

Other secular buildings

Royal Hospital Chelsea



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Other secular buildings



Royal Observatory

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Built for the First Royal Astronomer John Flamsteed.

Mind the Gap



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Now this is an interesting story about Christopher Wren that shows his scientific mind and how it interacts with architecture.

This is the Guildhall in Windsor. It was built in 1687 and was actually designed by Sir Thomas Fiddes but he died before the building was completed So it was Christopher Wren who oversaw the completion of the building after two years.

The building has an open ground floor where a corn market was held, and there are a number of meeting rooms upstairs, supported on columns and arches of Portland stone.

The Windsor borough Council demanded that Wren insert additional columns underneath the building, in order to support the weight of the heavy building above. Wren was adamant that additional columns were not necessary. Eventually the council insisted on it and Wren had to build the columns they required.

But Wren was so sure of his science and calculations that he made the columns just slightly short, so that they do not quite touch the ceiling. The building has stood as is for over 300 years and proven without doubt that Christopher Wren was right, additional columns were not needed.

Wren buildings in the USA

In Fulton, Missouri
St Mary, Aldermanbury,
London (1670-76)

Was moved to Fulton,
Missouri, USA 1965
after
being
gutted
in
WWII



Williamsburg, Virginia

Sir Christopher Wren Building
on the College of William and
Mary

Designed by
Wren in 1699
and was
adapted "by
the Gentlemen
there" in
Virginia



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Christopher Wren never traveled to the colonies (United States), but we do have two buildings that are designed by him in our country

In Fulton, Missouri there is the St Mary Church which was originally built in London in 1670-76 but when it was gutted by World War II nearly 300 years later, the town of Fulton bought all the stones in 1966 and rebuilt it on the grounds of Westminister College in Missouri. The town wanted to honor Winston Churchill.

At the college of William and Mary in Williamsburg Virginia, the Wren Building is said to have been originally designed by Christopher Wren in 1699 but then it was adapted "by the Gentlemen there". The Wren building is the main building for the college. The original building no longer stands because it was destroyed 3 different times by fires but each time it was rebuilt.

Wren's last statement



**Lector, Si Monumentum
Requiris Circumspice**

Reader, if you seek his
monument, look about
you.
- *On Wren's tomb in St.
Paul's Cathedral.*



Tuesday, January 12, 2010

Christopher Wren was knighted in 1673 by King Charles the II for his role in rebuilding London.

Christopher Wren died in 1723 and was buried in St Paul's . He was one of the first to be buried in the new St Pauls

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